RAW SEQUENCE LISTING   DATE: 09/15/2004
PATENT APPLICATION: US/09/937,908A   TIME: 11:07:04

Input Set : A:\213721.ST25.txt
Output Set: N:\CRF4\09152004\I937908A.raw

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 3 <110> APPLICANT: Feussner et al.
 5 <120> TITLE OF INVENTION: Linoleate- and Linolenate-Lipoxygenase-Mutants
 7 <130> FILE REFERENCE: 213721
 9 <140> CURRENT APPLICATION NUMBER: US 09/937,908A
10 <141> CURRENT FILING DATE: 2002-01-07
12 <150> PRIOR APPLICATION NUMBER: PCT/EP00/02545
13 <151> PRIOR FILING DATE: 2000-03-22
15 <150> PRIOR APPLICATION NUMBER: DE 19914464.8
16 <151> PRIOR FILING DATE: 1999-03-30
18 <160> NUMBER OF SEQ ID NOS: 5
20 <170> SOFTWARE: PatentIn Ver. 3.2
22 <210> SEQ ID NO: 1
23 <211> LENGTH: 878
24 <212> TYPE: PRT
25 <213> ORGANISM: Cucumis sativus
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29  1               5                  10                  15
31 Gly Asp Leu Ala Gly Ser Val Ile Asn Ala Gly Gly Asn Ile Leu Asp
32              20                  25                  30
34 Arg Val Ser Ser Leu Gly Gly Asn Lys Ile Lys Gly Lys Val Ile Leu
35          35                  40                  45
37 Met Arg Ser Asn Val Leu Asp Phe Thr Glu Phe His Ser Asn Leu Leu
38      50                  55                  60
40 Asp Asn Phe Thr Glu Leu Leu Gly Gly Gly Val Ser Phe Gln Leu Ile
41  65                  70                  75                  80
43 Ser Ala Thr His Thr Ser Asn Asp Ser Arg Gly Lys Val Gly Asn Lys
44              85                  90                  95
46 Ala Tyr Leu Glu Arg Trp Leu Thr Ser Ile Pro Pro Leu Phe Ala Gly
47             100                 105                 110
49 Glu Ser Val Phe Gln Ile Asn Phe Gln Trp Asp Glu Asn Phe Gly Phe
50             115                 120                 125
52 Pro Gly Ala Phe Phe Ile Lys Asn Gly His Thr Ser Glu Phe Phe Leu
53         130                 135                 140
55 Lys Ser Leu Thr Leu Asp Asp Val Pro Gly Tyr Gly Arg Val His Phe
56 145                 150                 155                 160
58 Asp Cys Asn Ser Trp Val Tyr Pro Ser Gly Arg Tyr Lys Lys Asp Arg
59             165                 170                 175
61 Ile Phe Phe Ala Asn His Val Tyr Leu Pro Ser Gln Thr Pro Asn Pro
62         180                 185                 190
64 Leu Arg Lys Tyr Arg Glu Glu Glu Leu Trp Asn Leu Arg Gly Asp Gly
65         195                 200                 205
67 Thr Gly Glu Arg Lys Glu Trp Asp Arg Ile Tyr Asp Tyr Asp Val Tyr
```

```
68      210                    215                    220
70 Asn Asp Ile Ala Asp Pro Asp Val Gly Asp His Arg Pro Ile Leu Gly
71 225                230                235                240
73 Gly Thr Thr Glu Tyr Pro Tyr Pro Arg Arg Gly Arg Thr Gly Arg Pro
74                245                250                255
76 Arg Ser Arg Arg Asp His Asn Tyr Glu Ser Arg Leu Ser Pro Ile Met
77                260                265                270
79 Ser Leu Asp Ile Tyr Val Pro Lys Asp Glu Asn Phe Gly His Leu Lys
80            275                280                285
82 Met Ser Asp Phe Leu Gly Tyr Thr Leu Lys Ala Leu Ser Ile Ser Ile
83            290                295                300
85 Lys Pro Gly Leu Gln Ser Ile Phe Asp Val Thr Pro Asn Glu Phe Asp
86 305                310                315                320
88 Asn Phe Lys Glu Val Asp Asn Leu Phe Glu Arg Gly Phe Pro Ile Pro
89                325                330                335
91 Phe Asn Ala Phe Lys Thr Leu Thr Glu Asp Leu Thr Pro Pro Leu Phe
92            340                345                350
94 Lys Ala Leu Val Arg Asn Asp Gly Glu Lys Phe Leu Lys Phe Pro Thr
95            355                360                365
97 Pro Glu Val Val Lys Asp Asn Lys Ile Gly Trp Ser Thr Asp Glu Glu
98      370                375                380
100 Phe Ala Arg Glu Met Leu Ala Gly Pro Asn Pro Leu Leu Ile Arg Arg
101 385                390                395                400
103 Leu Glu Ala Phe Pro Pro Thr Ser Lys Leu Asp Pro Asn Val Tyr Gly
104                405                410                415
106 Asn Gln Asn Ser Thr Ile Thr Glu Glu His Ile Lys His Gly Leu Asp
107                420                425                430
109 Gly Leu Thr Val Asp Glu Ala Met Lys Gln Asn Arg Leu Tyr Ile Val
110            435                440                445
112 Asp Phe His Asp Ala Leu Met Pro Tyr Leu Thr Arg Met Asn Ala Thr
113      450                455                460
115 Ser Thr Lys Thr Tyr Ala Thr Arg Thr Leu Leu Leu Leu Lys Asp Asp
116 465                470                475                480
118 Gly Thr Leu Lys Pro Leu Val Ile Glu Leu Ala Leu Pro His Pro Gln
119                485                490                495
121 Gly Asp Gln Leu Gly Ala Ile Ser Lys Leu Tyr Phe Pro Ala Glu Asn
122            500                505                510
124 Gly Val Gln Lys Ser Ile Trp Gln Leu Ala Lys Ala Tyr Val Thr Val
125            515                520                525
127 Asn Asp Val Gly Tyr His Gln Leu Ile Ser His Trp Leu His Thr His
128      530                535                540
130 Ala Val Leu Glu Pro Phe Val Ile Ala Thr His Arg Gln Leu Ser Val
131 545                550                555                560
133 Leu His Pro Ile His Lys Leu Leu Val Pro His Tyr Lys Asp Thr Met
134                565                570                575
136 Phe Ile Asn Ala Ser Ala Arg Gln Val Leu Ile Asn Ala Asn Gly Leu
137            580                585                590
139 Ile Glu Thr Thr His Tyr Pro Ser Lys Tyr Ser Met Glu Leu Ser Ser
140            595                600                605
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142 Ile Leu Tyr Lys Asp Trp Thr Phe Pro Asp Gln Ala Leu Pro Asn Asn
143         610                 615             620
145 Leu Met Lys Arg Gly Leu Ala Val Glu Asp Ser Ser Ala Pro His Gly
146 625                 630             635                 640
148 Leu Arg Leu Leu Ile Asn Asp Tyr Pro Phe Ala Val Asp Gly Leu Asp
149                 645             650                 655
151 Ile Trp Ser Ala Ile Lys Thr Trp Val Gln Asp Tyr Cys Cys Leu Tyr
152             660             665             670
154 Tyr Lys Asp Asp Asn Ala Val Gln Asn Asp Phe Glu Leu Gln Ser Trp
155         675             680             685
157 Trp Asn Glu Leu Arg Glu Lys Gly His Ala Asp Lys Lys His Glu Pro
158         690             695             700
160 Trp Trp Pro Lys Met Gln Thr Leu Ser Glu Leu Ile Glu Ser Cys Thr
161 705             710             715             720
163 Thr Ile Ile Trp Ile Ala Ser Ala Leu His Ala Ala Val Asn Phe Gly
164             725             730             735
166 Gln Tyr Pro Tyr Gly Gly Tyr Ile Leu Asn Arg Pro Thr Thr Ser Arg
167             740             745             750
169 Arg Phe Met Pro Glu Val Gly Thr Ala Glu Tyr Lys Glu Leu Glu Ser
170         755             760             765
172 Asn Pro Glu Lys Ala Phe Leu Arg Thr Ile Cys Ser Glu Leu Gln Ala
173         770             775             780
175 Leu Val Ser Ile Ser Ile Ile Glu Ile Leu Ser Lys His Ala Ser Asp
176 785             790             795             800
178 Glu Val Tyr Leu Gly Gln Arg Ala Ser Ile Asp Trp Thr Ser Asp Lys
179             805             810             815
181 Ile Ala Leu Glu Ala Phe Glu Lys Phe Gly Lys Asn Leu Phe Glu Val
182         820             825             830
184 Glu Asn Arg Ile Met Glu Arg Asn Lys Glu Val Asn Leu Lys Asn Arg
185         835             840             845
187 Ser Gly Pro Val Asn Leu Pro Tyr Thr Leu Leu Val Pro Ser Ser Asn
188         850             855             860
190 Glu Gly Leu Thr Gly Arg Gly Ile Pro Asn Ser Ile Ser Ile
191 865             870             875
194 <210> SEQ ID NO: 2
195 <211> LENGTH: 10
196 <212> TYPE: PRT
197 <213> ORGANISM: Artificial
199 <220> FEATURE:
200 <223> OTHER INFORMATION: Synthetic
202 <400> SEQUENCE: 2
204 Thr Val Asn Asp Val Gly Tyr His Gln Leu
205 1               5                   10
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209 <211> LENGTH: 10
210 <212> TYPE: PRT
211 <213> ORGANISM: Artificial
213 <220> FEATURE:
214 <223> OTHER INFORMATION: Synthetic
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216 <400> SEQUENCE: 3
218 Ile Glu Thr Thr His Tyr Pro Ser Lys Tyr
219 1               5                  10
221 <210> SEQ ID NO: 4
222 <211> LENGTH: 59
223 <212> TYPE: DNA
224 <213> ORGANISM: Artificial
226 <220> FEATURE:
227 <223> OTHER INFORMATION: Oligonucleotide primer
230 <400> SEQUENCE: 4
231 gcttatgtaa ctgttaatga tttcggttac catcaactta ttagtcattg gttgcatac  59
233 <210> SEQ ID NO: 5
234 <211> LENGTH: 57
235 <212> TYPE: DNA
236 <213> ORGANISM: Artificial
238 <220> FEATURE:
239 <223> OTHER INFORMATION: Oligonucleotide primer
242 <400> SEQUENCE: 5
243 gtatgcaacc aatgactaat aagttgatgg taaccgaaat cattaacagt tacataa     57
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RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 09/15/2004
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Invalid <213> Response:
Use of "Artificial" only as "<213> Organism" response is incomplete,
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:2,3,4,5

VERIFICATION SUMMARY   DATE: 09/15/2004
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